

CLAIMS

We claim:

1. An automated banking machine apparatus comprising:

a user interface including at least one input device adapted to receive inputs
5 identifying at least one of users and their accounts, and at least one output device;

at least one sheet handling mechanism, including:

at least one picking member moveable in engagement with a first sheet
bounding a stack of sheets, wherein movement of the at least one picking member
in a picking direction urges the first sheet to move in a first direction from the stack,
10 and

at least one stripper member positioned generally opposed of the at least one
picking member, wherein as the at least one picking member moves in the first
direction the at least one stripper member generally acts on the first sheet to oppose
movement of the first sheet in the first direction, and generally to prevent sheets
15 other than the first sheet from moving in the first direction from the stack;

at least one sensor disposed in the first direction of the at least one stripper member, wherein the at least one sensor is adapted to sense sheet thickness;

at least one drive in operative connection with at least one of the at least one picking member and the at least one stripper member;

5 at least one controller in operative connection with the at least one sensor and at least one drive;

wherein, responsive to the at least one sensor sensing overlapping multiple sheets adjacent the at least one sensor, the at least one controller is operative to cause the at least one drive to move at least one of the at least one stripper member and the at least one picking member such that one of the multiple sheets engaged
10 with the at least one stripper member is urged to move in a second direction opposed to the first direction, a distance greater than another sheet of the multiple sheets engaged with the at least one picking member is urged to move in the second direction.

15 2. The apparatus according to claim 1 wherein the at least one controller is operative to cause the at least one stripper member to urge the one of the multiple sheets engaged therewith to

move in the second direction faster than the other of the multiple sheets engaged with the at least one picking member.

3. The apparatus according to claim 1 wherein the at least one controller is operative to cause the at least one stripper member to urge the one of the multiple sheets engaged therewith to move in the second direction for a longer period of time than the other of the multiple sheets engaged with the at least one picking member.

4. The apparatus according to claim 1 wherein the at least one controller is operative to cause the at least one stripper member to urge the one of the multiple sheets engaged therewith to move in the second direction while the other of the multiple sheets engaged with the at least one picking member is held relatively stationary.

5. The apparatus according to claim 1 wherein the at least one stripper member comprises at least one contact stripper roll.

6. The apparatus according to claim 1 wherein the at least one stripper roll comprises at least one non-contact stripper roll.

7. The apparatus according to claim 1 wherein the at least one stripper roll comprises at least one contact stripper roll and at least one non-contact stripper roll.

8. The apparatus according to claim 1 wherein the sheet handling mechanism is operative to separate currency notes from a stack.

9. The apparatus according to claim 1 and further comprising a chute adapted to receive a stack of sheets from a user, and wherein the sheet handling mechanism is operative to
5 separate sheets in a stack input to the chute.

10. The apparatus according to claim 9 and further comprising at least one validator device adapted to determine at least one characteristic of validity of notes separated from the stack.

11. The apparatus according to claim 10 and further comprising a housing including a chest portion, and at least one transport in operative connection with the at least one controller,
10 wherein responsive to the at least one controller the at least one transport is operative to cause notes determined to have the at least one characteristic of validity by the at least one validating device to move into the chest portion.

12. The apparatus according to claim 11 and further comprising a storage area outside the chest portion, and wherein the at least one controller is operative to cause the at least one
15 transport to move notes determined as not having the at least one characteristic of validity by the at least one validator device to be directed to the storage area.

13. The apparatus according to claim 12 wherein the chest portion is a generally L-shaped chest portion.

14. The apparatus according to claim 9 and further comprising at least one moving member supporting the stack by engaging the first sheet in the chute, and wherein the at least one moving member is in operative connection with the at least one drive, and wherein the at least one controller is operative to cause the at least one moving member to urge the first sheet to move in the second direction as the at least one picking member urges the one sheet engaged with the picking member to move in the second direction.

15. The apparatus according to claim 14 wherein the at least one moving member urges the first sheet to move in the second direction a distance less than the stripper member urges the one of the multiple sheets engaged therewith to move in the second direction.

16. The apparatus according to claim 15 wherein the at least one moving member comprises a plurality of rolls bounding a bottom area of the chute.

17. An automated banking machine apparatus comprising:

at least one input device adapted to receive inputs identifying at least one of machine users and financial accounts;

at least one output device adapted to communicate with machine users;

at least one note handling mechanism;

at least one controller in operative connection with the at least one input device, at least one output device, and at least one note handling mechanism;

5 wherein the at least one note handling mechanism includes at least one picking member, at least one stripper member and at least one sensor, wherein the at least one note handling mechanism is generally operative responsive to the at least one controller to pick notes generally one at a time from a stack through movement of the picking member in a first direction, and wherein responsive to sensing multiple notes having been picked from
10 the stack by the at least one sensor, the at least one controller is operative to cause the at least one picking member and at least one stripper member to move the multiple notes in a second direction opposed of the first direction, wherein a first note of the multiple notes engaged with the at least one stripper member is moved in the second direction a distance greater than a second note of the multiple notes engaged with the picking member.

15 18. The apparatus according to claim 17 and further comprising:

at least one moving member in supporting connection with the stack, wherein the at least one moving member is operative to engage the second note of the multiple notes, wherein the multiple notes are moved in the second direction.

19. The apparatus according to claim 18 wherein the at least one moving member
5 moves the second note in the second direction a distance less than the first note.

20. The apparatus according to claim 17 wherein the second note is urged to move in the second direction relatively faster than the first note.

21. The apparatus according to claim 20 wherein both the first and second notes are moved in the second direction simultaneously.

10 22. The apparatus according to claim 20 wherein the second note is held stationary while the first note is moved in the second direction.

23. The apparatus according to claim 18 and further comprising a gate and a chute, wherein the gate is operative responsive to the at least one controller to control access to the chute, and wherein the at least one moving member is positioned adjacent to a lower end of the chute, and
15 wherein the stack of notes is positioned in the chute.

24. The apparatus according to claim 23 and further comprising at least one validator, wherein notes from the stack are moved adjacent to the at least one validator, and further comprising a first storage area in the machine, wherein notes determined as valid through operation of the at least one validator are stored in the first storage area.

5 25. The apparatus according to claim 24 and further comprising a note dispenser operative responsive to the at least one controller to dispense notes.

26. The apparatus according to claim 25 wherein notes dispensed by the note dispenser are dispensed from the first storage area.

27. An automated banking machine apparatus comprising:

10 at least one picking member, at least one stripper member, at least one sensor and at least one controller, wherein the at least one picking member and at least one stripper member are generally operative to move sheets generally one at a time from a stack, wherein a first note bounding the stack is generally moved from the stack in a first direction, and wherein responsive to the at least one sensor
15 sensing multiple notes picked from the stack, the at least one controller is operative to cause the at least one picking member and at least one stripper to move the

multiple notes in a second direction opposed of the first direction and to move at least one of the multiple notes in the second direction relative to the first note.

28. The apparatus according to claim 27 wherein the at least one stripper member comprises at least one contact stripper roll and at least one non-contact stripper roll.

5 29. The apparatus according to claim 27 and further comprising at least one chute adapted to receive at least one stack of notes from users of the apparatus, wherein notes are picked from the stack.

30. The apparatus according to claim 29 and further comprising at least one validator, at least one first area and at least one second area, wherein the at least one controller is operative to
10 direct notes determined as valid through operation of the at least one validator to the first area, and other notes not determined as valid through operation of the at least on validator, to the second area.

31. The apparatus according to claim 29 and further comprising at least one moving member positioned in the chute, wherein the at least one moving member is operative to urge the
15 first sheet in the first direction as the first sheet is moved in the first direction responsive to movement of the picking member.

32. The apparatus according to claim 31 wherein the at least one moving member is operative to urge the first sheet to move in the second direction as the first sheet is moved in the second direction by the at least one picking member.

33. The apparatus according to claim 32, wherein the at least one stripper member is
5 operative to move at least one of the multiple notes in the second direction at a faster rate than a picking member moves the first note in the second direction.

34. The apparatus according to claim 32 wherein the at least one stripper member is operative to move the at least one of the multiple sheets in a second direction for a longer period of time than the picking member moves the first sheet in the second direction.